

IN THE CLAIMS

1. (Currently Amended) A communication system comprising:

a mobile device of a first public mobile network, the mobile device including a Subscriber Identity Module (SIM), the SIM having [[and]] a single International Mobile Subscriber Identity (~~IMSI~~) in the first public mobile network (IMSI-H), wherein the first public mobile network has a Home Location Register (HLR) including a single HLR entry corresponding to the IMSI-H;

a first Mobile Subscriber Integrated Service Digital Network (MSISDN) number for use in [[a]] the first public mobile network;

a second MSISDN number for use in a second public mobile network; and

at least one signal gateway routing a first communication between the mobile device and the first public mobile network using the first MSISDN, ~~wherein the at least one signal gateway routes~~ and routing a second communication between the mobile device and the second public mobile network using the second MSISDN, ~~and~~

wherein the at least one signal gateway routes the first and second communications ~~communication~~ using the single ~~IMSI~~ IMSI-H.

2. (Original) The system of claim 1, wherein at least one of the first MSISDN number and the second MSISDN number is permanently assigned to the SIM.

3. (Original) The system of claim 1, wherein at least one of the first MSISDN number and the second MSISDN number is temporarily assigned to the SIM.

4. (Original) The system of claim 1, wherein the first MSISDN number is a telephone number of the mobile device that is local to the first public mobile network.

5. (Original) The system of claim 1, wherein the second MSISDN number is a telephone number of the mobile device that is local to the second public mobile network.

6. (Previously Presented) The system of claim 1, wherein components of the at least one signal gateway map the first MSISDN number to the second MSISDN number.

7. (Original) The system of claim 1, wherein at least one component of the at least one signal gateway provides at least one of a home location register (HLR), a visited location register (VLR), a gateway mobile switching center (GMSC), a visited mobile switching center (VMSC), a short message service center (SMSC), and a service node in at least one of the first public mobile network and the second public mobile network.

8. (Previously Presented) The system of claim 1, wherein the at least one signal gateway is coupled to at least one first mobile switching center of the first public mobile network and is coupled to provide signal loop-back at the first mobile switching center, wherein the at least one signal gateway couples to at least one component of the second public mobile network via the first mobile switching center.

9. (Previously Presented) The system of claim 1, wherein the at least one signal gateway is coupled to at least one second mobile switching center of the second public

mobile network and is coupled to provide signal loop-back at the second mobile switching center, wherein the at least one signal gateway couples to at least one component of the first public mobile network via the second mobile switching center.

10. (Original) The system of claim 1, wherein the first public mobile network includes first and second mobile switching centers, wherein the at least one signal gateway includes first and second signal gateways coupled among the first and second mobile switching centers via couplings that support Signaling System Number 7 (SS7) protocols.

11. (Original) The system of claim 10, wherein the first signal gateway couples to the first mobile switching center using a common signal point code, the first signal gateway couples to the second mobile switching center using a first signal point code, the second signal gateway couples to the first mobile switching center using a second signal point code, and the second signal gateway couples to the second mobile switching center using the common signal point code.

12. (Original) The system of claim 10, wherein the first signal gateway couples to the first mobile switching center using a first signal point code and the second signal gateway couples to the second mobile switching center using a second signal point code.

13. (Original) The system of claim 1, wherein the second public mobile network

includes third and fourth mobile switching centers, wherein the at least one signal gateway includes third and fourth signal gateways coupled among the third and fourth mobile switching centers via couplings that support Signaling System Number 7 (SS7) protocols.

14. (Original) The system of claim 13, wherein the third signal gateway couples to the third mobile switching center using a common signal point code, the third signal gateway couples to the fourth mobile switching center using a first signal point code, the fourth signal gateway couples to the third mobile switching center using a second signal point code, and the fourth signal gateway couples to the fourth mobile switching center using the common signal point code.

15. (Original) The system of claim 13, wherein the third signal gateway couples to the third mobile switching center using a first signal point code and the fourth signal gateway couples to the fourth mobile switching center using a second signal point code.

16. (Original) The system of claim 1, wherein the mobile device includes at least one of cellular telephones, personal computers, portable computing devices, portable telephones, portable communication devices, subscriber devices or units, and personal digital assistants.

17. (Currently Amended) A communication system comprising:
 means for wireless communications;

means for associating a single subscriber identity with the means for wireless communications; and

means for routing communication among the means for wireless communications and a first public mobile network using a first telephone number and for routing communication among the means for wireless communications and a second public mobile network using a second telephone number, wherein the communication is routed using a single subscriber identity;

wherein the single subscriber identity comprises a single International Mobile Subscriber Identity in the first public mobile network (IMSI-H); and

wherein the first public mobile network has a Home Location Register (HLR) including a single HLR entry corresponding to the IMSI-H.

18. (Currently Amended) A system comprising a wireless client device that includes:

one Subscriber Identity Module (SIM) having one assigned International Mobile Subscriber Identity ~~(IMSI)~~ in a first public mobile network (IMSI-H), and

at least one signal gateway that supports use of two or more Mobile Subscriber Integrated Service Digital Network (MSISDN) numbers by the client device,

wherein the at least one signal gateway couples among at least one of first and second mobile switching centers,

wherein the at least one signal gateway routes communication between the client device and the first mobile switching center using a first MSISDN and routes communication between the client device and a second mobile switching center using a second MSISDN,

wherein the communication is routed using the one ~~IMSI~~ IMSI-H, and
wherein the first public mobile network has a Home Location Register (HLR)
including a single HLR entry corresponding to the IMSI-H.

19. (Currently Amended) A device comprising:

at least one signal gateway coupled among components of a first public mobile network and a second public mobile network,

wherein the at least one signal gateway routes communication between a mobile device and the first public mobile network using a first Mobile Subscriber Integrated Service Digital Network (MSISDN) number,

wherein the at least one signal gateway routes communication between the ~~[[SIM]]~~ mobile device and the second public mobile network using a second MSISDN,

wherein the mobile device includes a single Subscriber Identity Module (SIM) and a single International Mobile Subscriber Identity (~~IMSI~~) in the first public mobile network (IMSI-H), and

wherein the first public mobile network has a Home Location Register (HLR)
including a single HLR entry corresponding to the IMSI-H.

20. (Original) The device of claim 19, wherein the first MSISDN number is a telephone number of the mobile device that is local to the first public mobile network and the second MSISDN number is a telephone number of the mobile device that is local to the second public mobile network.

21. (Previously Presented) The device of claim 19, wherein the at least one signal gateway maps the first MSISDN number to the second MSISDN number.

22. (Previously Presented) The device of claim 19, wherein the at least one signal gateway provides at least one of a home location register (HLR), a visited location register (VLR), a gateway mobile switching center (GMSC), a visited mobile switching center (VMSC), a short message service center (SMSC), and a service node in at least one of the first and second public mobile networks.

23. (Previously Presented) The device of claim 19, wherein the at least one signal gateway is coupled to at least one first mobile switching center of the first public mobile network and is coupled to provide signal loop-back at the first mobile switching center, wherein the at least one signal gateway couples to at least one component of the second public mobile network via the first mobile switching center.

24. (Previously Presented) The device of claim 19, wherein the at least one signal gateway is coupled to at least one second mobile switching center of the second public mobile network and is coupled to provide signal loop-back at the second mobile switching center, wherein the at least one signal gateway couples to at least one component of the first public mobile network via the second mobile switching center.

25. (Original) The device of claim 19, wherein the first public mobile network includes first and second mobile switching centers, wherein the at least one signal

gateway includes first and second signal gateways coupled among the first and second mobile switching centers via couplings that support Signaling System Number 7 (SS7) protocols.

26. (Original) The device of claim 25, further comprising cross-connections between the first and second signal gateways and the first and second mobile switching centers.

27. (Original) The device of claim 19, wherein the second public mobile network includes third and fourth mobile switching centers, wherein the at least one signal gateway includes third and fourth signal gateways coupled among the third and fourth mobile switching centers via couplings that support Signaling System Number 7 (SS7) protocols.

28. (Original) The device of claim 27, further comprising cross-connections between the third and fourth signal gateways and the third and fourth mobile switching centers.

29. (Original) The device of claim 19, wherein the mobile device includes at least one of cellular telephones, personal computers, portable computing devices, portable telephones, portable communication devices, subscriber devices or units, and personal digital assistants.

30. (Currently Amended) A method for supporting multiple Mobile Subscriber Integrated Service Digital Network (MSISDN) numbers in a mobile device, comprising:

routing communication between the mobile device and a first public mobile network using a first MSISDN that is associated with the first public mobile network, wherein the mobile device includes a Subscriber Identity Module (SIM) with a single International Mobile Subscriber Identity (~~IMSI~~) in the first public mobile network (IMSI-H);

mapping the first MSISDN number to a second MSISDN number that is associated with a second public mobile network; and

routing communication between the client device and the second public mobile network using the second MSISDN via a coupling through the first public mobile network using the single ~~IMSI~~ IMSI-H, wherein

wherein the first public mobile network has a Home Location Register (HLR) including a single HLR entry corresponding to the IMSI-H.

31. (Original) The method of claim 30, wherein the IMSI is associated with the first public mobile network.

32. (Previously Presented) The method of claim 30, wherein routing communication between the mobile device and the first public mobile network comprises routing communication between the first public mobile network and the SIM via at least one signal gateway, wherein the signal gateway is coupled among components of the first public mobile network and the second public mobile network.

33. (Original) The method of claim 30, wherein the first MSISDN number is a telephone number of the mobile device that is local to the first public mobile network and the second MSISDN number is a telephone number of the mobile device that is local to the second public mobile network.

34. (Original) The method of claim 30, wherein components of a signal gateway coupled to at least one of the first and second public mobile networks map the first MSISDN number to the second MSISDN number.

35. (Previously Presented) The method of claim 30, wherein routing communication between the mobile device and each of the first and second public mobile networks includes coupling the first and second public networks using at least one signal gateway, wherein at least one component of the at least one signal gateway provides at least one of a home location register (HLR), a visited location register (VLR), a gateway mobile switching center (GMSC), a visited mobile switching center (VMSC), a short message service center (SMSC), and a service node in at least one of the first public mobile network and the second public mobile network.

36. (Previously Presented) The method of claim 30, wherein routing communication between the mobile device and each of the first and second public mobile networks includes coupling at least one signal gateway to at least one first mobile switching center of the first public mobile network to provide signal loop-back at

the first mobile switching center, wherein the at least one signal gateway couples to at least one component of the second public mobile network via the first mobile switching center.

37. (Previously Presented) The method of claim 30, wherein routing communication between the mobile device and each of the first and second public mobile networks includes coupling at least one signal gateway to at least one second mobile switching center of the second public mobile network to provide signal loop-back at the second mobile switching center, wherein the at least one signal gateway couples to at least one component of the first public mobile network via the second mobile switching center.

38. (Original) The method of claim 30, wherein the mobile device includes at least one of cellular telephones, personal computers, portable computing devices, portable telephones, portable communication devices, subscriber devices or units, and personal digital assistants.

39. (Currently Amended) A computer program readable storage medium including executable instructions encoded therein, which, when executed, provide numerous Mobile Subscriber Integrated Service Digital Network (MSISDN) numbers in a mobile device, by:

 routing communication between the mobile device and a first public mobile network using a first MSISDN that is associated with the first public mobile network,

wherein the mobile device includes a Subscriber Identity Module (SIM) with a single
[[an]] International Mobile Subscriber Identity (~~IMSI~~) in the first public mobile network
(IMSI-H);

mapping the first MSISDN number to a second MSISDN number that is
associated with a second public mobile network; and

connecting calls between the client device and the second public mobile network
using the second MSISDN via a coupling through the first public mobile network using
the single ~~IMSI~~ IMSI-H;

wherein the first public mobile network has a Home Location Register (HLR)
including a single HLR entry corresponding to the IMSI-H.

40. (Currently Amended) A communication system comprising:

a mobile device including a Subscriber Identity Module (SIM) and a single
International Mobile Subscriber Identity (~~IMSI~~) in a first public mobile network (IMSI-H);

a first Mobile Subscriber Integrated Service Digital Network (MSISDN) number
for use in [[a]] the first public mobile network;

a plurality of second MSISDN numbers for use in at least one second public
mobile network; and

at least one signal gateway coupled among components of the first public mobile
network and the second public mobile network, wherein the at least one signal gateway
routes communication between the SIM and the first public mobile network using the
first MSISDN, wherein the at least one signal gateway automatically routes

communication between the SIM and the second public mobile network using one of the plurality of second MSISDNs using the single ~~IMSI~~ IMSI-H,

wherein the first public mobile network has a Home Location Register (HLR) including a single HLR entry corresponding to the IMSI-H.

41. (Previously Presented) The system of claim 40, wherein at least one of the first MSISDN number and one of the plurality of second MSISDN numbers is permanently assigned to the SIM.

42. (Previously Presented) The system of claim 40, wherein at least one of the first MSISDN number and the plurality of second MSISDN numbers is temporarily assigned to the SIM.

43. (Previously Presented) The system of claim 40, wherein the first MSISDN number is a telephone number of the mobile device that is local to the first public mobile network.

44. (Previously Presented) The system of claim 40, wherein the plurality of second MSISDN numbers are telephone numbers of the mobile device that are local to the second public mobile network.

45. (Previously Presented) The system of claim 40, wherein components of the at least one signal gateway map the first MSISDN number to one of the plurality of second MSISDN numbers.

46. (Previously Presented) The system of claim 40, wherein at least one component of the at least one signal gateway provides at least one of a home location register (HLR), a visited location register (VLR), a gateway mobile switching center (GMSC), a visited mobile switching center (VMSC), a short message service center (SMSC), and a service node in at least one of the first public mobile network and the second public mobile network.

47. (Previously Presented) The system of claim 40, wherein the at least one signal gateway is coupled to at least one first mobile switching center of the first public mobile network and is coupled to provide signal loop-back at the first mobile switching center, wherein the at least one signal gateway couples to at least one component of the second public mobile network via the first mobile switching center.

48. (Previously Presented) The system of claim 40, wherein the at least one signal gateway is coupled to at least one second mobile switching center of the second public mobile network and is coupled to provide signal loop-back at the second mobile switching center, wherein the at least one signal gateway couples to at least one component of the first public mobile network via the second mobile switching center.

49. (Currently Amended) A method for supporting multiple Mobile Subscriber Integrated Service Digital Network (MSISDN) numbers in a mobile device, comprising:

routing communication between the mobile device and a first public mobile network using a first MSISDN number that is associated with the first public mobile network, wherein the mobile device includes a Subscriber Identity Module (SIM) with single International Mobile Subscriber Identity (~~IMSI~~) in the first public mobile network (IMSI-H);

mapping the first MSISDN number to one of a plurality of second MSISDN numbers that are associated with a second public mobile network; and

automatically routing communication between the client device and the second public mobile network using one of the plurality of second MSISDN numbers via a coupling through the first public mobile network using the single ~~IMSI~~ IMSI-H;

wherein the first public mobile network has a Home Location Register (HLR) including a single HLR entry corresponding to the IMSI-H.

50. (Previously Presented) The method of claim 49, wherein the IMSI is associated with the first public mobile network.

51. (Previously Presented) The method of claim 49, wherein routing communication between the mobile device and the first public mobile network comprises routing communication between the first public mobile network and the SIM via at least one signal gateway, wherein the at least one signal gateway is coupled

among components of the first public mobile network and the second public mobile network.

52. (Previously Presented) The method of claim 49, wherein the first MSISDN number is a telephone number of the mobile device that is local to the first public mobile network and the plurality of second MSISDN numbers are telephone numbers of the mobile device that are local to the second public mobile network.

53. (Previously Presented) The method of claim 51, wherein the IMSI is associated with the first MSISDN number at the first public mobile network, and wherein the plurality of second MSISDN numbers are in a designated range of numbers defined by the second public mobile network.

54. (Previously Presented) The method of claim 53, wherein the at least one signal gateway serves as a home location register (HLR) for the designated range of numbers.

55. (Previously Presented) The method of claim 49, wherein the plurality of second MSISDN numbers each have a different profile in the second public network.

56. (Previously Presented) The method of claim 49, wherein components of a signal gateway coupled to at least one of the first and second public mobile networks map the first MSISDN number to one of the plurality of second MSISDN numbers.

57. (Previously Presented) The method of claim 49, wherein routing communication between the mobile device and each of the first and second public mobile networks includes coupling the first and second public networks using at least one signal gateway, wherein at least one component of the at least one signal gateway provides at least one of a home location register (HLR), a visited location register (VLR), a gateway mobile switching center (GMSC), a visited mobile switching center (VMSC), a short message service center (SMSC), and a service node in at least one of the first public mobile network and the second public mobile network.

58. (Previously Presented) The method of claim 49, wherein routing communication between the mobile device and each of the first and second public mobile networks includes coupling at least one signal gateway to at least one first mobile switching center of the first public mobile network to provide signal loop-back at the first mobile switching center, wherein the at least one signal gateway couples to at least one component of the second public mobile network via the first mobile switching center.

59. (Previously Presented) The method of claim 49, wherein routing communication between the mobile device and each of the first and second public mobile networks includes coupling at least one signal gateway to at least one second mobile switching center of the second public mobile network to provide signal loop-back at the second mobile switching center, wherein the at least one signal gateway couples

to at least one component of the first public mobile network via the second mobile switching center.

60. (Previously Presented) The method of claim 49, wherein the mobile device includes at least one of cellular telephones, personal computers, portable computing devices, portable telephones, portable communication devices, subscriber devices or units, and personal digital assistants.

61. (Currently Amended) A method for supporting Mobile Subscriber Integrated Service Digital Network (MSISDN) numbers in an inbound roaming mobile device, comprising:

 registering the mobile device in a foreign public mobile network in which the mobile device is roaming, the mobile device having a single International Mobile Subscriber Identity in a Home Public Mobile Network (HPMN) (IMSI-H);

 the foreign public mobile network accepting the registration of the mobile device;

 the foreign public mobile network sending messages to a signal gateway SG;

[[and]]

upon the SG determining that the mobile device is a subscriber to a temporary local number service,

modifying a calling Global Title (GT) to the SG;

relaying a registration message to the foreign public mobile network with the modified GT; and

the foreign public mobile network mapping a local MSISDN for use of the
roaming mobile device;

wherein communications of the roaming mobile device using the local MSISDN
are routed by the SG using the single IMSI-H; and

wherein the HPMN has a Home Location Register (HLR) including a single HLR
entry corresponding to the IMSI-H.

62 – 63. (Cancelled).

64. (Currently Amended) A method for supporting Mobile Subscriber Integrated
Service Digital Network (MSISDN) numbers in a roaming mobile device, comprising:

registering the mobile device in a foreign public mobile network, wherein a signal
related to the registering is directed through a signal gateway coupling a home network
of the mobile device and the foreign public mobile network without using a Roaming
Service Provider Node (RSPN) at the foreign public mobile network, the mobile device
having a single International Mobile Subscriber Identity in the home network (IMSI-H);
[[and]]

transmitting a welcome message to the mobile device, wherein the message
comprises an offer to receive incoming calls from within the foreign public mobile
network at preferred rates while registered with the foreign public mobile network; and

the foreign public mobile network mapping a local MSISDN for use of the
registered mobile device;

wherein communications of the registered mobile device using the local MSISDN are routed using the single IMSI-H; and

wherein the home network has a Home Location Register (HLR) including a single HLR entry corresponding to the IMSI-H.

65. (Previously Presented) The method of claim 64, further comprising the foreign public mobile network assigning a temporary local number to the mobile device.

66. (Previously Presented) The method of claim 64, further comprising:
 assigning a temporary local number to the mobile device; and
 transmitting the temporary local number to the mobile device via a Short Message Service (SMS) message.

67. (Previously Presented) The method of claim 65, further comprising the signal gateway issuing an InsertSubscriberData to a Visited Location Register (VLR) location of the mobile device in the foreign public mobile network.

68. (Currently Amended) A method for voicemail optimized Late Call Forwarding (LCF) supporting Mobile Subscriber Integrated Service Digital Network (MSISDN) numbers in an outbound roaming mobile device, the method comprising:

 registering the outbound roaming mobile device in a Foreign Public Mobile Network (FPMN), wherein a signal related to the registering is directed through a signal gateway coupling a Home Public Mobile Network (HPMN) of the mobile device and the

FPMN without using a Roaming Service Provider Node (RSPN) at the FPMN, the mobile device having a single International Mobile Subscriber Identity in the HPMN (IMSI-H); and

for a communication directed to a MSISDN number allocated by HPMN (MSDSIN-H) of the outbound roaming mobile device, directly routing the communication to voicemail or a LCF number at the HPMN using the IMSI-H;

wherein the home network has a Home Location Register (HLR) including a single HLR entry corresponding to the IMSI-H.

69. (Currently Amended) A method for supporting Mobile Subscriber Integrated Service Digital Network (MSISDN) numbers in a roaming mobile device, the mobile device having a single International Mobile Subscriber Identity in a Home Public Mobile Network (HPMN) (IMSI-H), the method comprising:

rejecting a pre-determined number of registration requests by the roaming mobile device to register with a Visited Public Mobile Network (VPMN); and

registering the roaming mobile device with a Foreign Public Mobile Network (FPMN), upon a registration attempt by the roaming mobile device to register with the FPMN;

wherein a signal related to the registering is directed, using the IMSI-H, through a signal gateway coupling [[a]] the Home Public Mobile Network (HPMN) of the mobile device and the FPMN without using a Roaming Service Provider Node (RSPN) at the FPMN; [[and]]

wherein the VPMN is a non-FPMN and a non-HPMN; and

wherein the HPMN has a Home Location Register (HLR) including a single HLR entry corresponding to the IMSI-H.

70 - 72. (Cancelled)

73. (Previously Presented) The method of claim 64, wherein the mobile device is inbound roaming.

74. (Previously Presented) The method of claim 73, wherein the inbound roaming is national inbound roaming.

75. (Previously Presented) The method of claim 64, wherein the mobile device is outbound roaming.

76. (Currently Amended) The method of claim 75, wherein the ~~inbound~~ outbound roaming is national outbound roaming.

77. (Currently Amended) A method for routing communication, the method comprising:

assigning a first Mobile Subscriber Integrated Service Digital Network (MSISDN) number to a mobile device for use in a first public mobile network, the mobile device having a Subscriber Identity Module (SIM) and a single International Mobile Subscriber

Identity ~~(IMSI)~~ in the first public mobile network (IMSI-H), wherein the first public mobile network has a Home Location Register (HLR) including a single HLR entry corresponding to the IMSI-H;

assigning a second MSISDN number to the mobile device for use in a second public mobile network; and

optimally routing communication between the SIM and the second public mobile network using the second MSISDN and the single ~~IMSI~~ IMSI-H via a signal gateway, wherein the signal gateway is coupled among components of the first public mobile network and the second public mobile network;

wherein the first MSISDN number is a telephone number of the mobile device that is local to the first public mobile network;

wherein the second MSISDN number is a telephone number of the mobile device that is local to the second public mobile network; and

wherein the mobile device is roaming in the second public mobile network.

78. (Previously Presented) The method of claim 64, wherein the signal gateway supports multiple home networks.

79. (Previously Presented) The method of claim 70, further comprising:

at the FPMN, assigning a voicemail number to the mobile device; and
providing access to the home network voicemail via the voicemail number.

80. (New) The communication system of claim 1, wherein the first public mobile

network is a Home Public Mobile Network (HPMN) and the second public mobile network is a Foreign Public Mobile Network (FPMN).

81. (New) The communication system of claim 17, wherein the first public mobile network is a Home Public Mobile Network (HPMN) and the second public mobile network is a Foreign Public Mobile Network (FPMN).

82. (New) The method of claim 30, wherein the first public mobile network is a Home Public Mobile Network (HPMN) and the second public mobile network is a Foreign Public Mobile Network (FPMN).

83. (New) The method of claim 49, wherein the first public mobile network is a Home Public Mobile Network (HPMN) and the second public mobile network is a Foreign Public Mobile Network (FPMN).

84. (New) The method of claim 64, wherein the first public mobile network is a Home Public Mobile Network (HPMN) and the second public mobile network is a Foreign Public Mobile Network (FPMN).